Abstract of the Disclosure

A laser diode drive circuit and an optical transmission system that are capable of achieving compensation for degradation occurring as a result of a rapid change in the ambient temperature or an operation performed over an extended period of time are provided. The laser diode drive circuit having a temperature compensation circuit 117 further comprises a device that stores in memory a signal from a monitor photodiode 125 as light output power data and a device that implements automatic control on degradation compensation or temperature compensation for a laser diode 112 by using the light output power data as a reference voltage.